5.29 Basic method of laying-out templates for a roof truss

Using the information supplied on the drawings, lines representing the roof truss are marked out on the floor. To ensure proper alignment of holes through templates, the battens (templates representing the angle sections) are drilled and laid on plate templates in the correct position on the lines on the floor. The holes in the plate templates are marked from the hole positions in the battens, and then drilled. The 'tail' or 'back' holes are marked in position for the purlin cleats and shoe connections.

After the templates have been checked for accuracy by replacing on the lay-out lines, they are marked up ready for use by the fabricators. *The edge of each batten template to be set against the heel of the angle section is marked with a line close to that edge.*

Figure 5.26 shows a layout for a simple roof truss, together with information on how the various templates employed are marked-up.

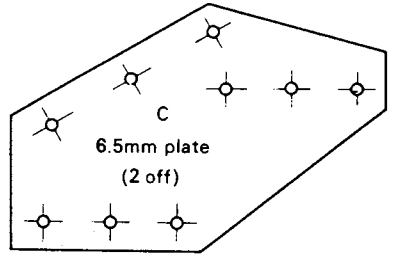
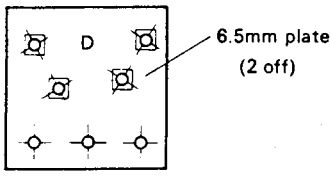
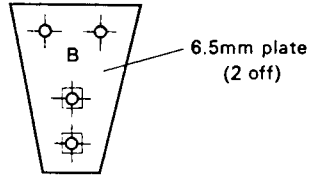
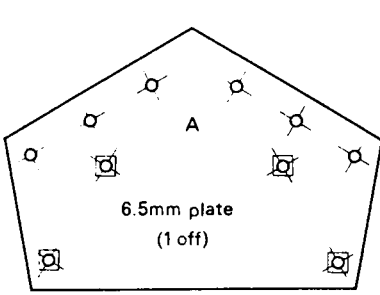
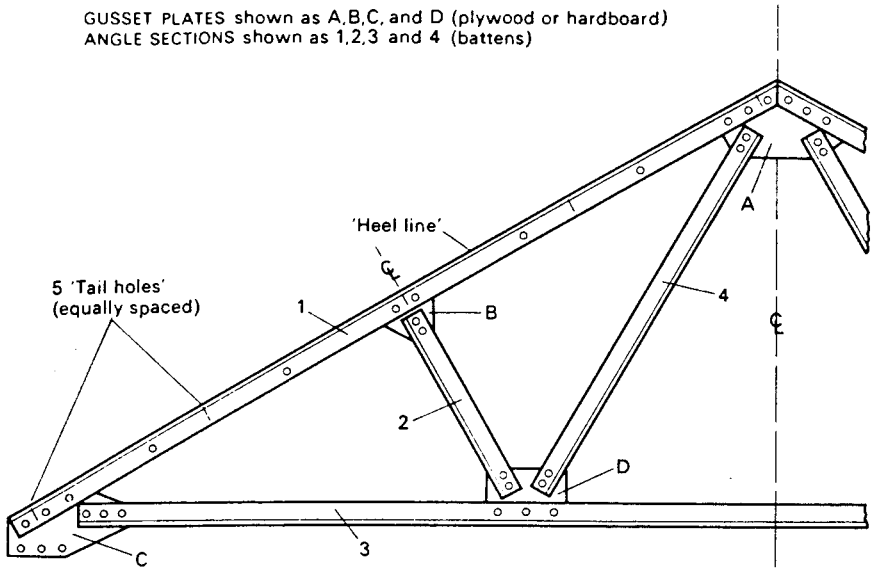



Figure 5.25(a) shows a typical template for marking out columns and universal beams.

First, centre lines are marked on the web at both ends of the section for the purpose of locating with the centre line marked on the template.

Second, the template is laid on the surface of the top flange with the respective centre lines aligned as shown in Fig. 5.25(b) clamped in position, and the plain and 'A' holes marked through with a nipple punch.

This procedure is repeated for the bottom flange where the plain and 'B' holes are marked through.

Finally, the beam is laid with the web horizontal on the gantry, and the web holes 'C' marked through in the same manner, as shown in Fig. 5.25(c).

4.136m

64mm

2 pairs off

1

1.051m

51mm

2 off

2

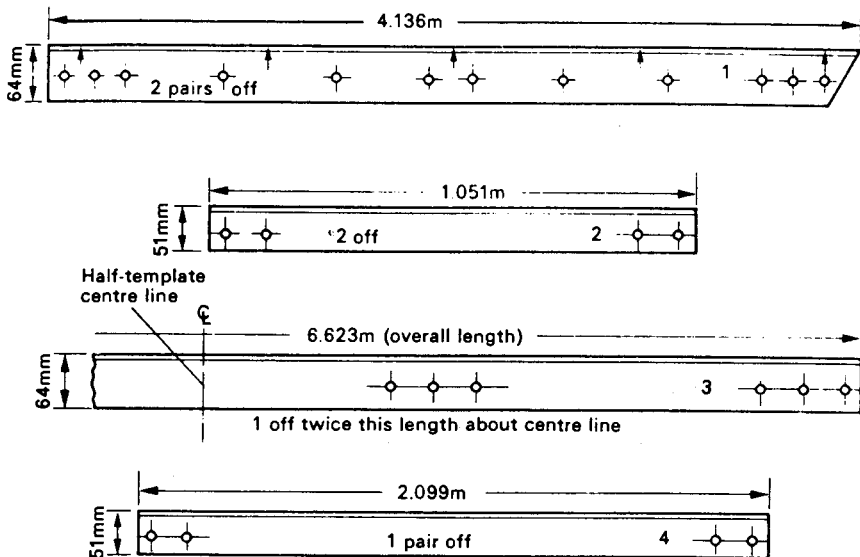
Half-template centre line

℄

6.623m (overall length)

64mm

3

1 off twice this length about centre line

(b) **Batten templates for the angle sections**

Note: For clarity these are not shown to scale

Instructions marked up on templates (generally written in indelible pencil)

Template 1. 64mm × 51mm × 6.35mm × 4.136m long - 2 pairs off.
Tail holes to 29mm Back Gauge mark, drill 17.5mm diameter
Plain holes drill 21mm diameter

Template 2. 51mm × 51mm × 6.35mm × 1.051m long - 2 off.
Drill holes 17.5mm diameter

Template 3. 64mm × 51mm × 6.35mm × 6.623m long - 1 off
Drill holes 21mm diameter
THIS IS A HALF TEMPLATE TO THE CENTRE LINE OF THE SECTION'S OVERALL LENGTH

Template 4. 51mm × 51mm × 6.35mm × 2.099m long - 1 pair off
Drill holes 17.5mm diameter.

Fig. 5.26 Use of templates for structural steelwork